



University of Groningen

From Radio Pulse to Elusive Particle

Fraenkel, Eric Daniël

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2014

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Fraenkel, E. D. (2014). From Radio Pulse to Elusive Particle. [S.l.]: [S.n.].

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Stellingen

behorende bij het proefschrift

From Radio Pulse to Elusive Particle

van

Eric Daniël Fraenkel

1. Polarization measurements provide an effective tool to test theories on radio emissions from air showers.
2. The extraction method of an observable from a band-pass limited transient signal affects both its value as well as its error margins. Extracting only the sample at the pulse maximum is not optimal.
3. The upsampling of a band-pass-limited digitized pulse does not yield any additional timing information.
4. Linear prediction can be used successfully as an online method to suppress periodic radio frequency interference.
5. It is theoretically possible to reconstruct a three-dimensional signal (in the far-field approximation) which was registered in two orthonormal polarization directions, if the arrival direction of the signal is known. In practice, however, one needs to be careful because of the presence of multidirectional background noise.
6. A scientific collaboration acts against the spirit of science if it makes its raw data unavailable or hard to access.
7. A physicist who does modeling as well as modelling is both rare and highly desired.
8. Any engineering problem is at least NP-complete.